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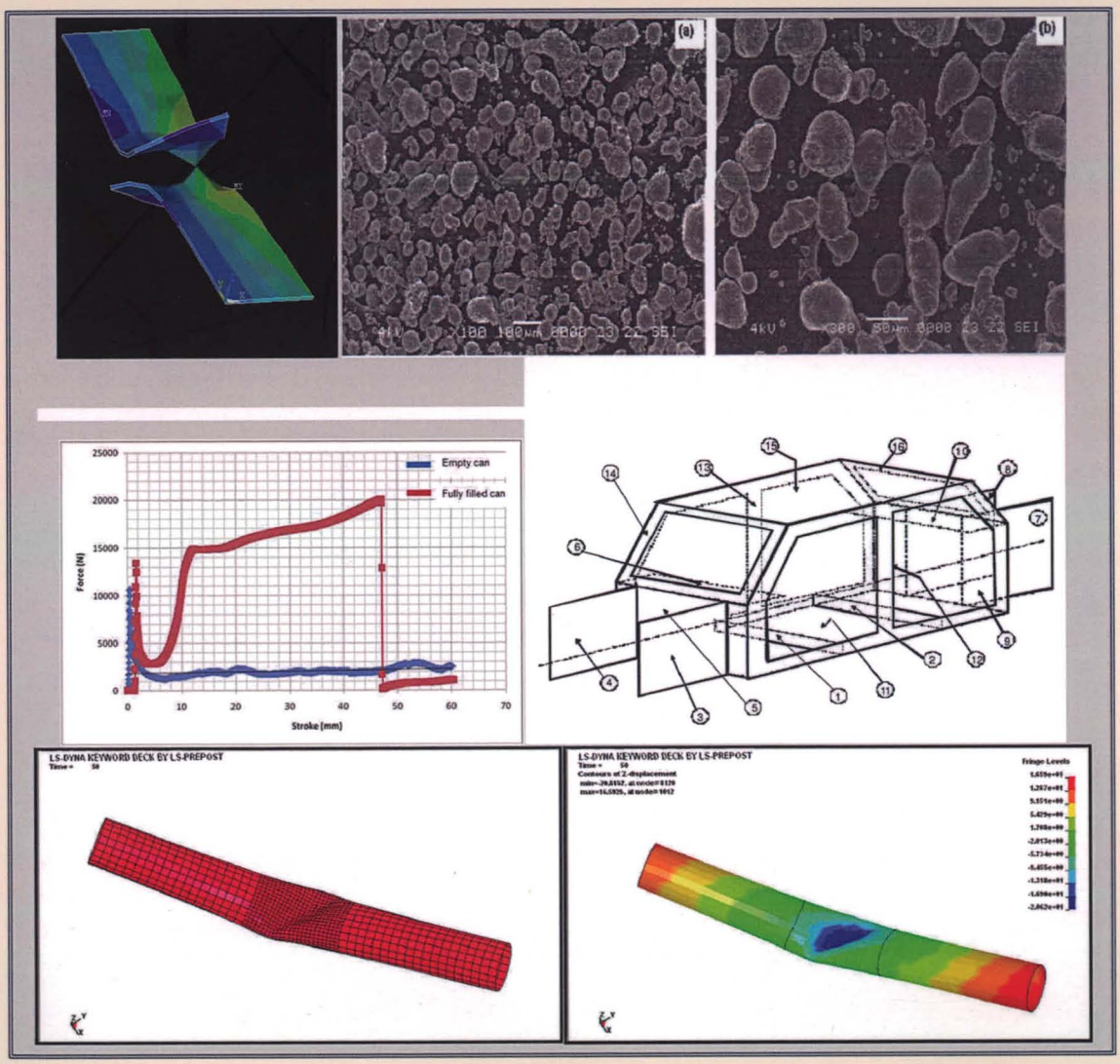

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Meftah Hrairi

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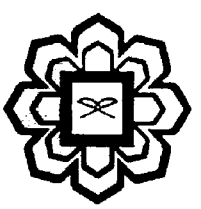

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5

EXPERIMENTAL RESULTS OF EMPTY AND WATER FILLED CYLINDRICAL SHELL BUCKLING FOR 60mm STROKE

Qasim H. Shah, Hasan M.Abid, Adib B. Rosli

1. INTRODUCTION

The objective of this experiment is to find out the types and properties of the materials used in this study. This can be known by measuring the mechanical properties and observing the characteristics of the materials. The most fundamental strengths of a material are the yield strength and ultimate tensile strength. Therefore, the relation between stress and strain becomes an important characteristic of the material. A tensile test can determine the stress-strain diagram of the material. Then, the experimental result will be compared with numerical simulation results.

2. COMPRESSION TEST

A compression test determines the behavior of materials under crushing loads. Circular cylindrical cans were compressed and deformation at various compression rates and strokes were recorded. Graphs of compressive stress and strain were obtained and used to determine the effect of fluid in the cans due to the axial compressive load applied. The test was done for different volumes of fluid with various speeds and strokes.